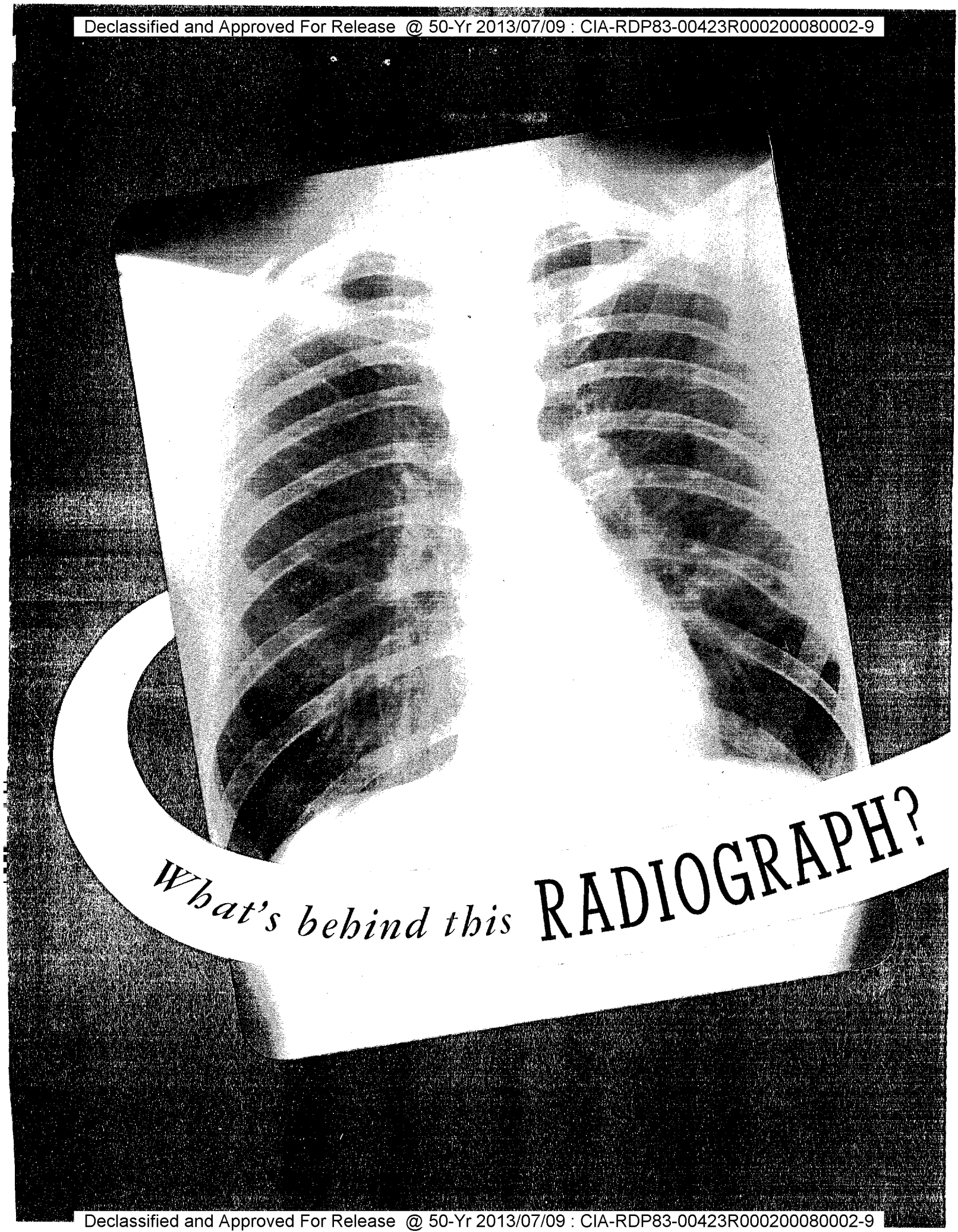
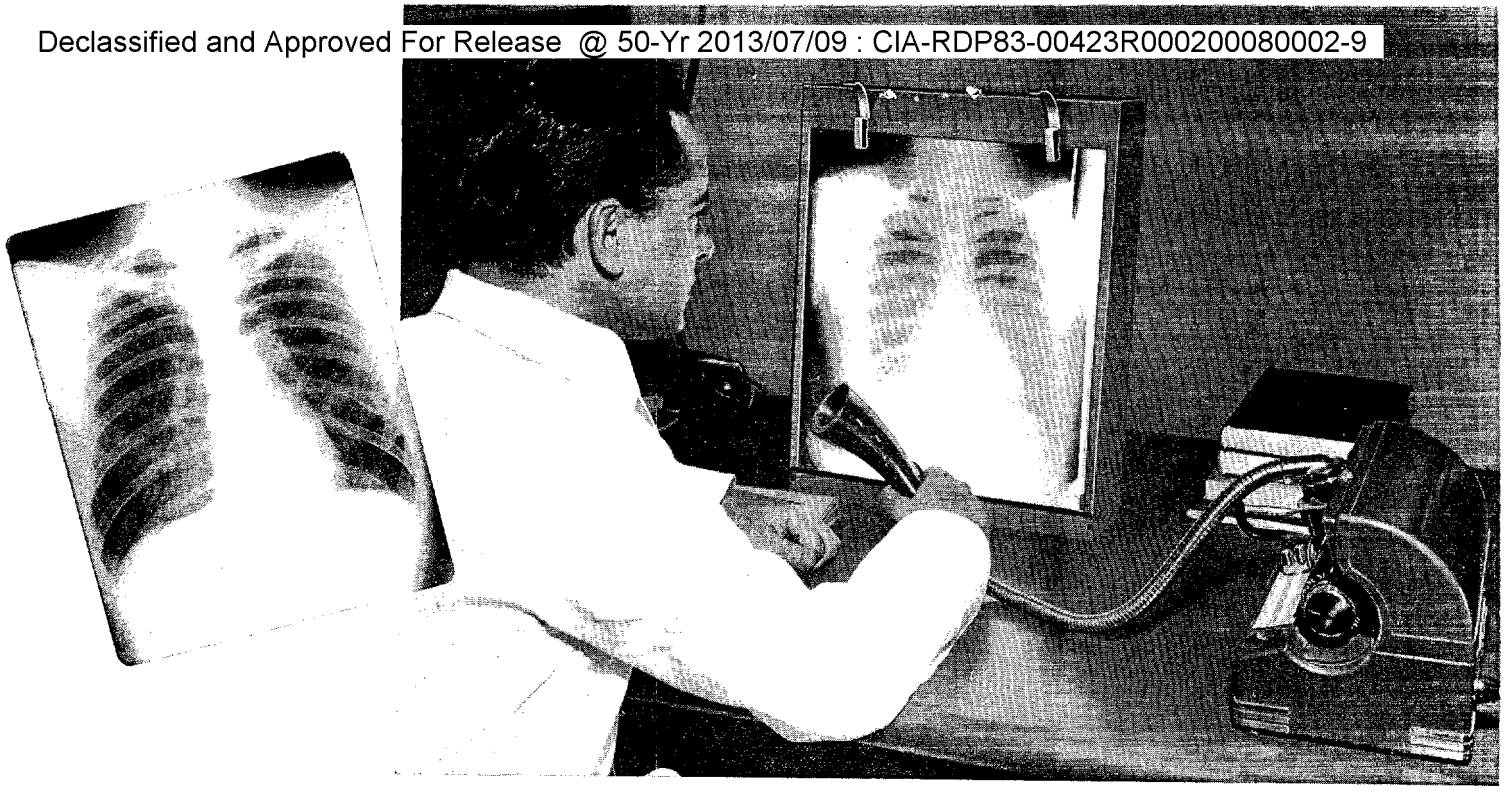




Behind every radiograph are many factors contributing to the high quality necessary for the most accurate interpretation.

The radiologist, who has invested years of time and thousands of dollars in education and training, sets up exacting controls and techniques for maintaining correct exposures.

Special care is taken in selecting the sensitized material to produce the desired effect.

Many thousands of dollars are invested in the finest precision radiographic equipment available to insure that the image on the exposed radiograph is the best quality possible.

Thoroughly trained technicians carry out the procedures established by the radiologist.

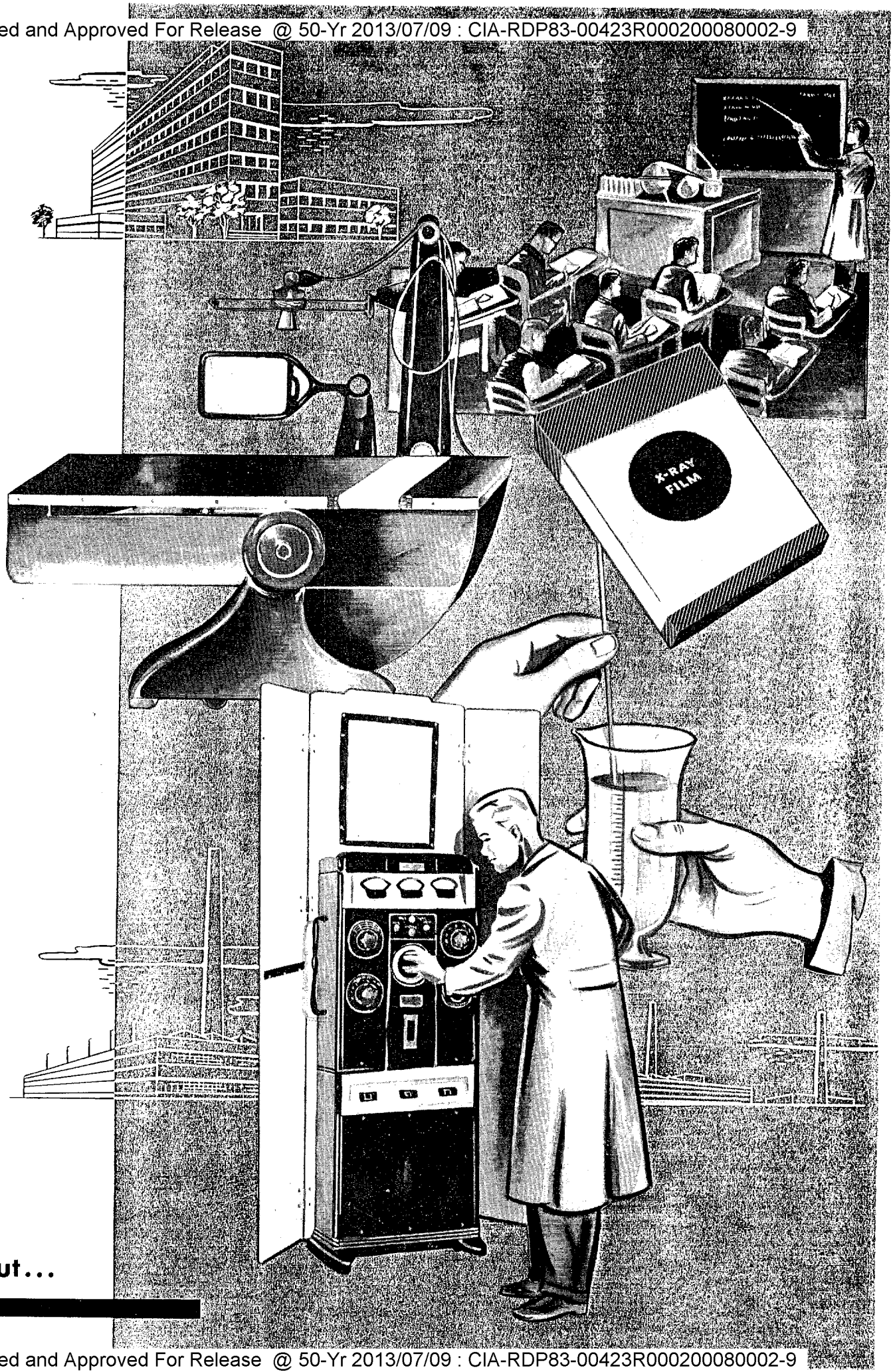
Every detail in the exposure of a radiograph receives the utmost

FOR OVER 30 YEARS . . . PAKO Corporation has been engaged exclusively in the development and manufacture of processing equipment. The knowledge and experience gained has enabled PAKO to supply a practical and feasible method for the automatic processing of x-ray film.

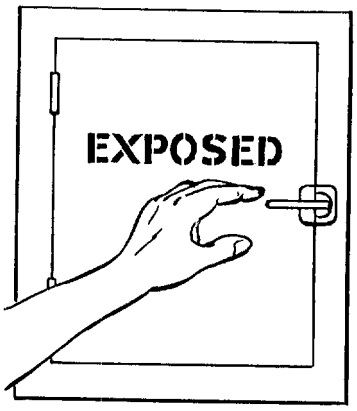
The high quality results which can be obtained with PAKO Automatic X-Ray Film Processing Equipment has been proven in actual use at many installations in hospitals, clinics and industries in many parts of the world. Yes, this complete method of film handling with positive automatic control of the variable processing factors is a thoroughly tested, proven and established system.

The assistance of PAKO Planning Service is available, at no cost or obligation. This service is ready to help you in planning the installation of PAKO Automatic X-Ray Processing Equipment in your X-Ray section for maximum operational efficiency and the most practical use of available space. Your PAKO Distributor can give you complete information or write:

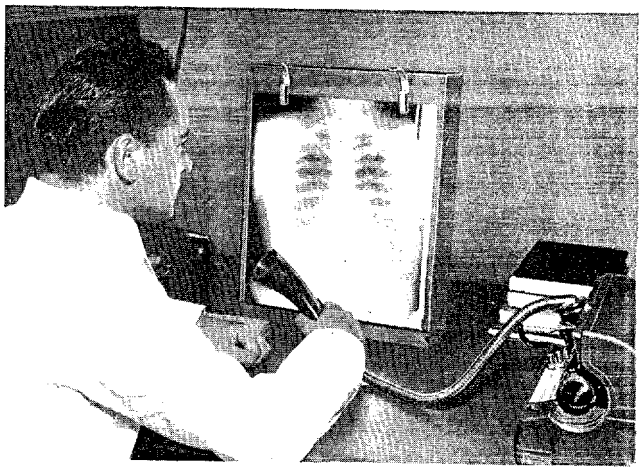
PAKO CORPORATION 1010 LYNDALE AVE. NO.
MINNEAPOLIS 11, MINN.

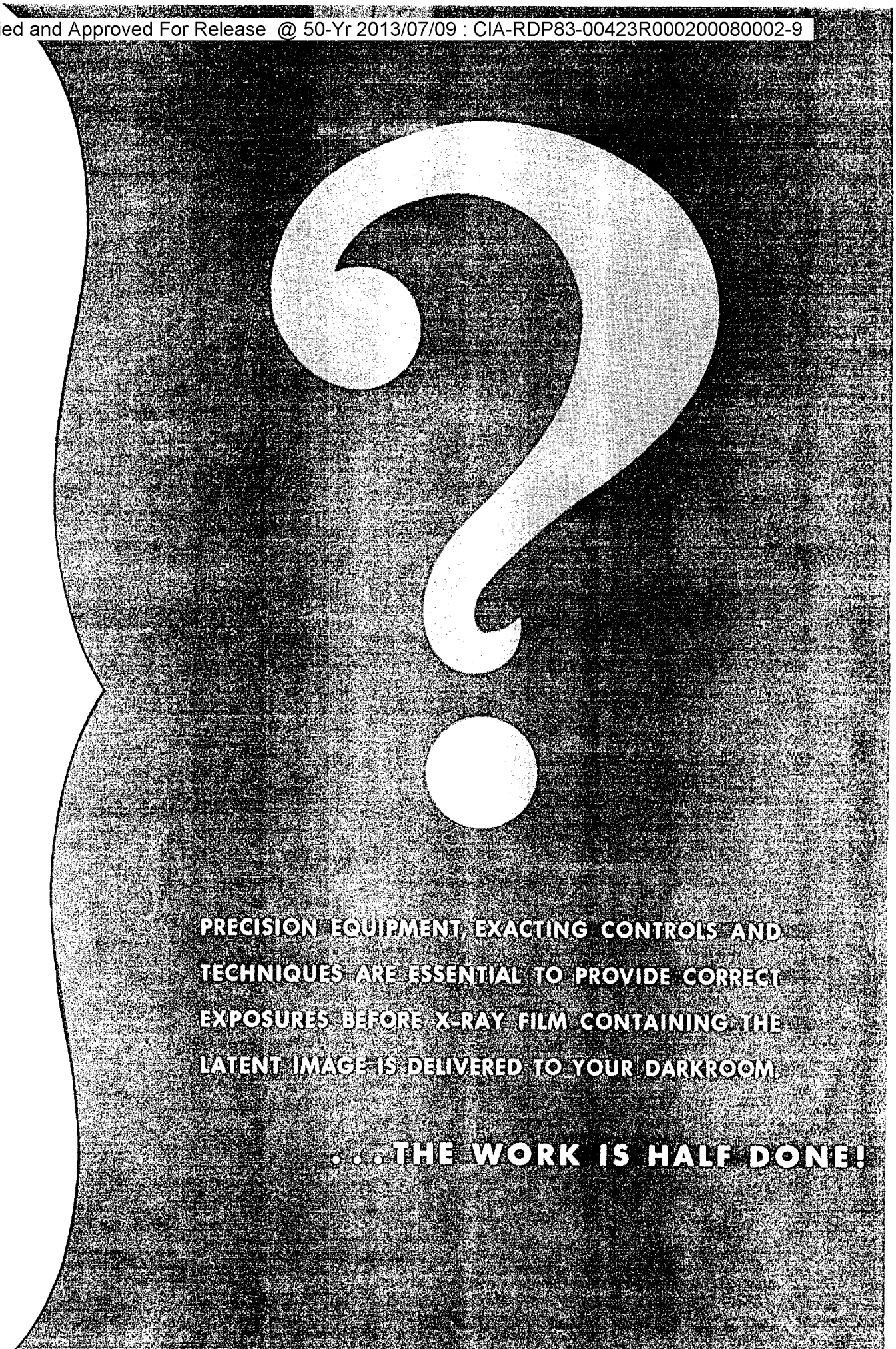


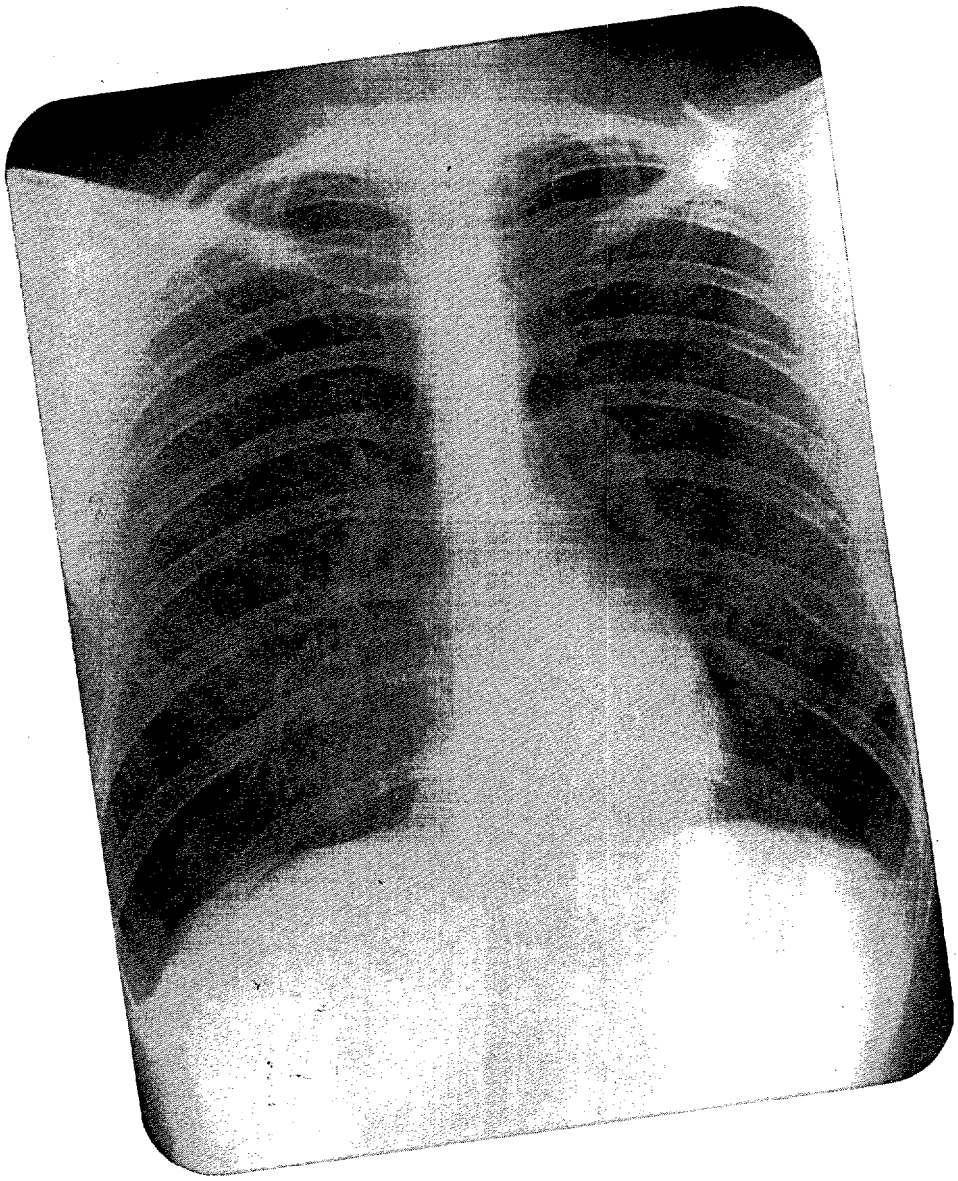
attention, but...



What happens to this film between the time it is exposed and the time it is read.







CONTROL FACTORS—The handling of the film from this point on is of equal importance. Control of processing procedures must be maintained to insure the final result—uniform quality radiographs.

These three factors must be controlled

Time...

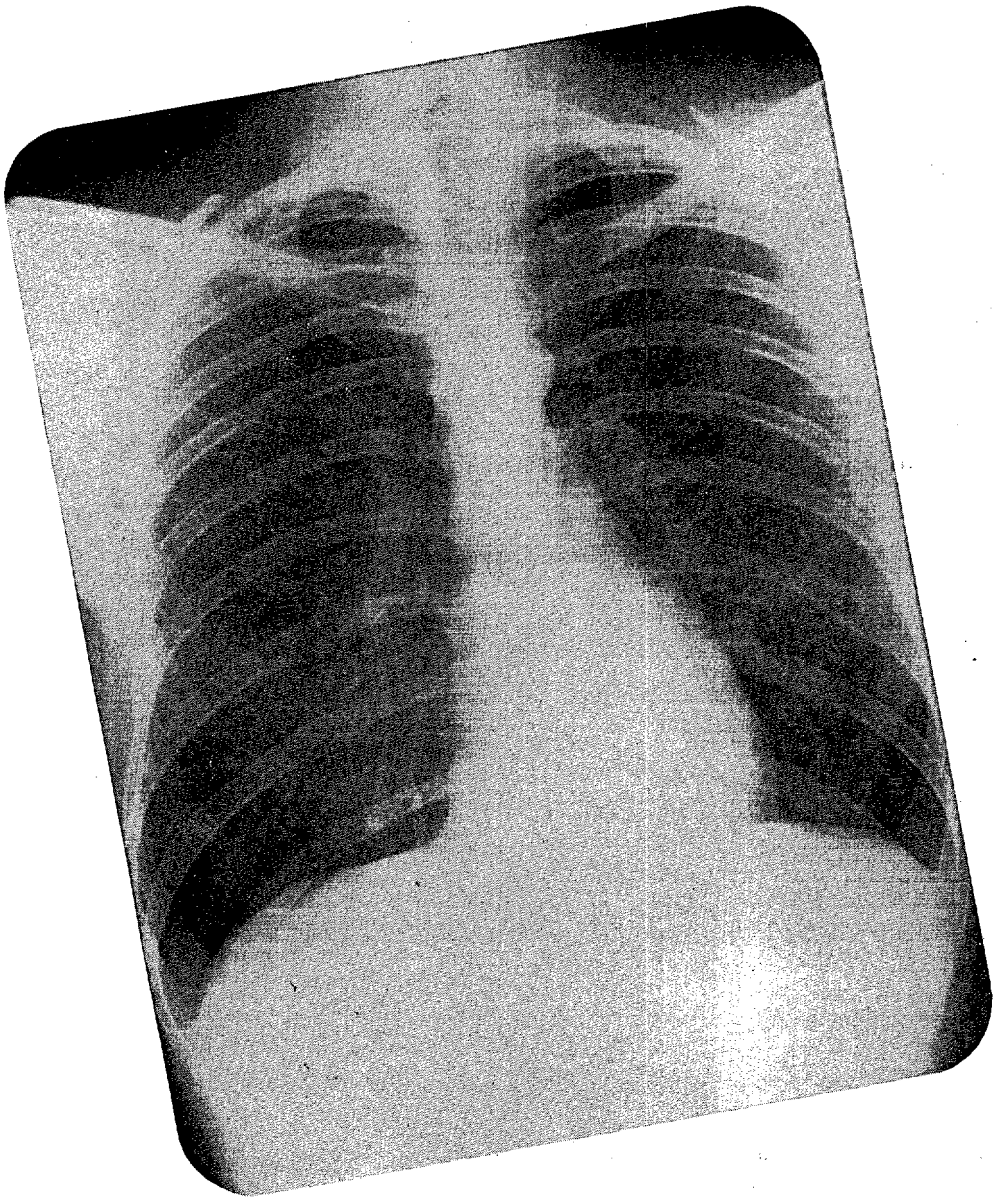
exposure techniques are predicated on a pre-determined time cycle in the processing of the film. It is essential to control the time the film is in the developer, short stop, hypo, and wash.

Solution Temperature...

a variation in the temperature of the processing solutions may materially affect the quality of the finished radiograph. Processing solution temperatures must be maintained at plus or minus ½°F. to assure high quality results.

Chemical Activity...

both the processing action within the solutions and the carry-over of one into another affect the chemical activity of the solutions. To obtain consistent results the performance characteristics of each solution must be held in balance at all times.



QUALITY CONTROL—Yes positive control of the variable factors—Time, Solution Temperature and Chemical Activity—is required for the production of uniform quality radiographs.

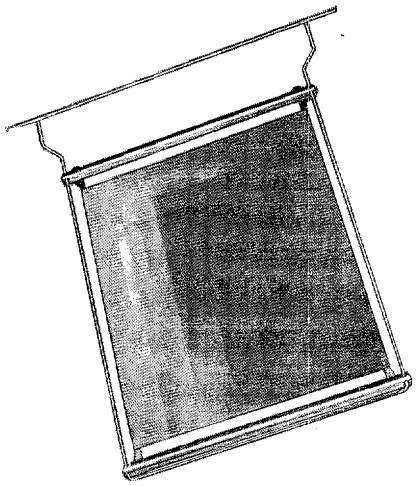
In processing your x-ray film, the following operations must be accomplished and controlled:

- **Loading film on hangers**
- **Developing, fixing, washing and drying film**
- **Transporting hangers**
- **Controlling solution temperatures**
- **Controlling chemical activity of solutions**
- **Mixing, storing, circulating and filtering chemical solutions**

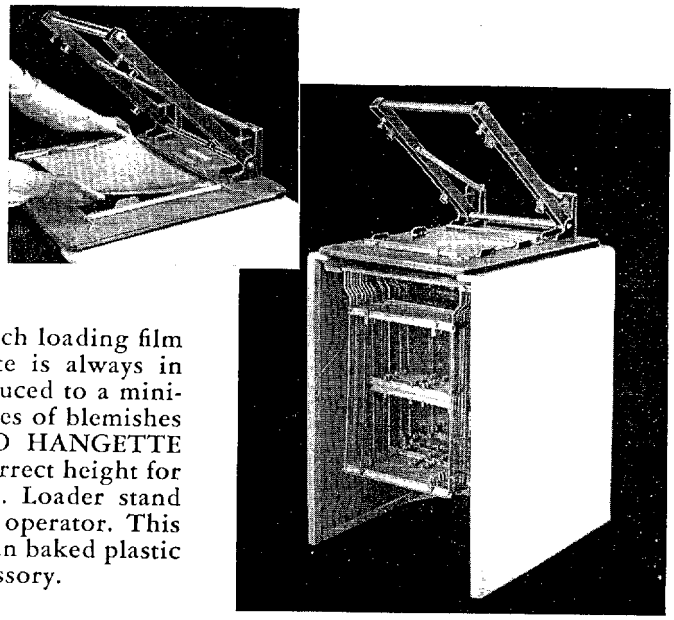
All of these can be done more efficiently and systematically with...

PAKO Automatic X-Ray Processing Equipment

PAKO machines and accessories are specifically designed to provide the most systematic, efficient work handling and the best possible control of processing procedures.

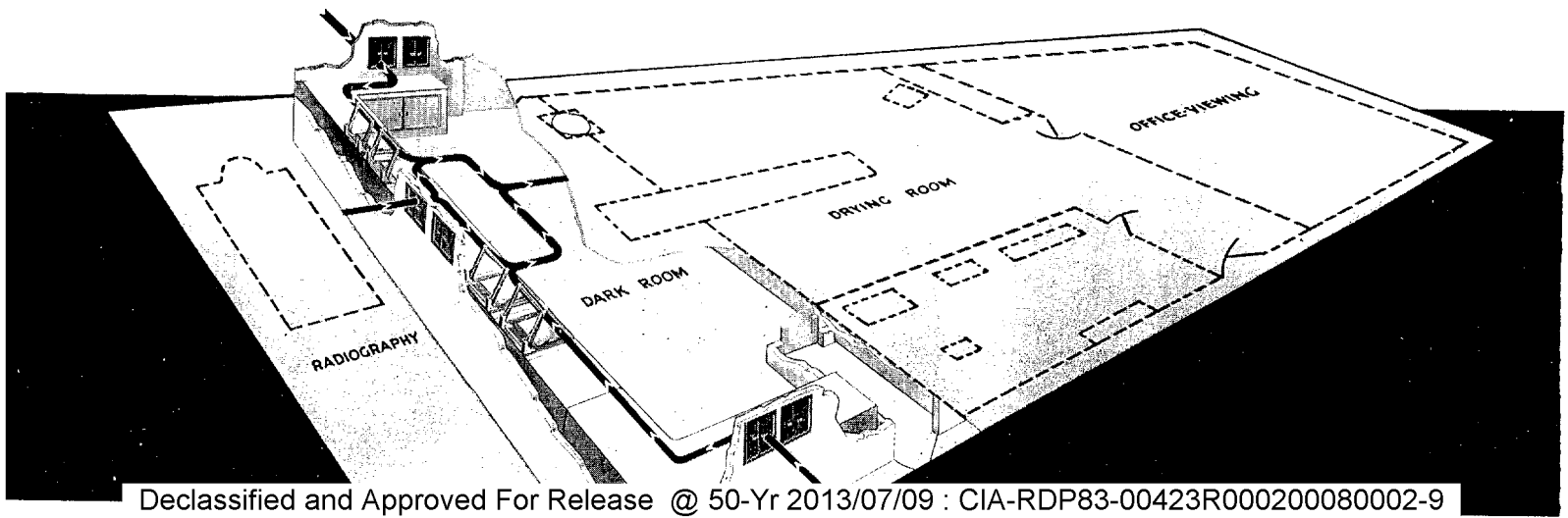


PAKO HANGETTE provides correct, safe suspension of films during processing. Compensates for physical changes in wet and dry film. The film is held firmly, kept taut in one plane, yet is easily removed after processing.

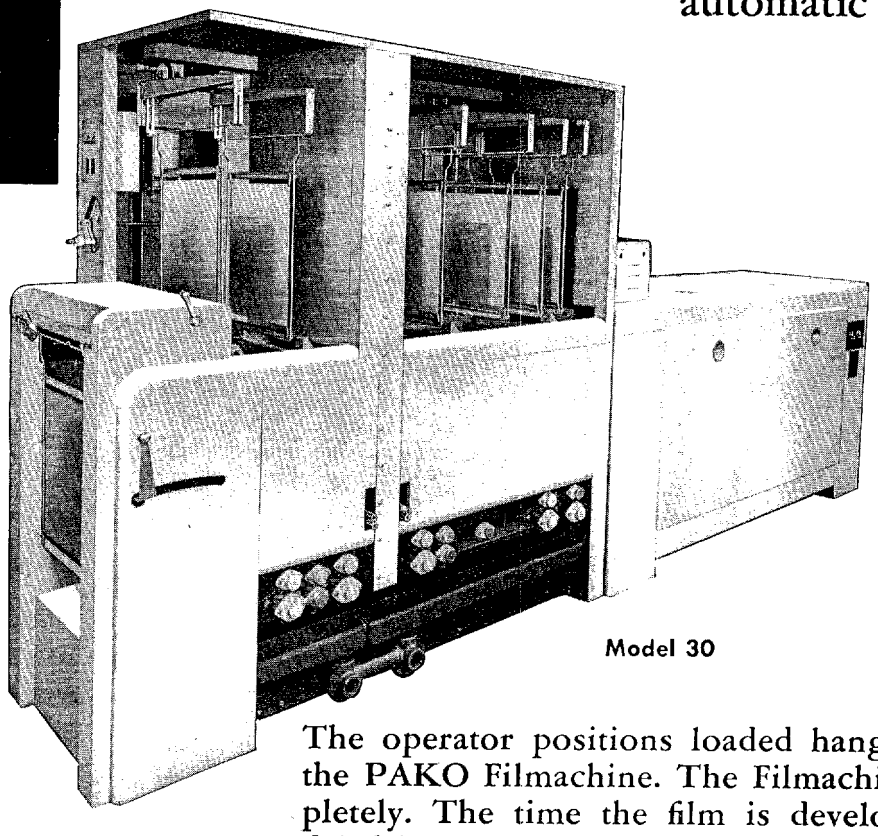


PAKO Hangette Loader

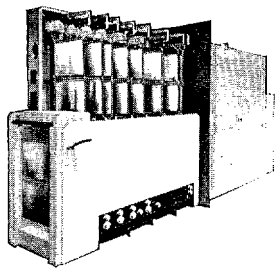
PAKO HANGETTE LOADER—Touch loading film in the dark is easy because Hangette is always in correct position. Film handling is reduced to a minimum, virtually eliminating major causes of blemishes and scratches. Mounted on a PAKO HANGETTE LOADER STAND the loader is the correct height for easy operation and operator comfort. Loader stand stores 50 hangettes in easy reach of operator. This compact, efficient unit with easy to clean baked plastic finish is an ideal x-ray darkroom accessory.



PAKO X-Ray Filmachine for completely automatic film processing.



Model 30



Model 14

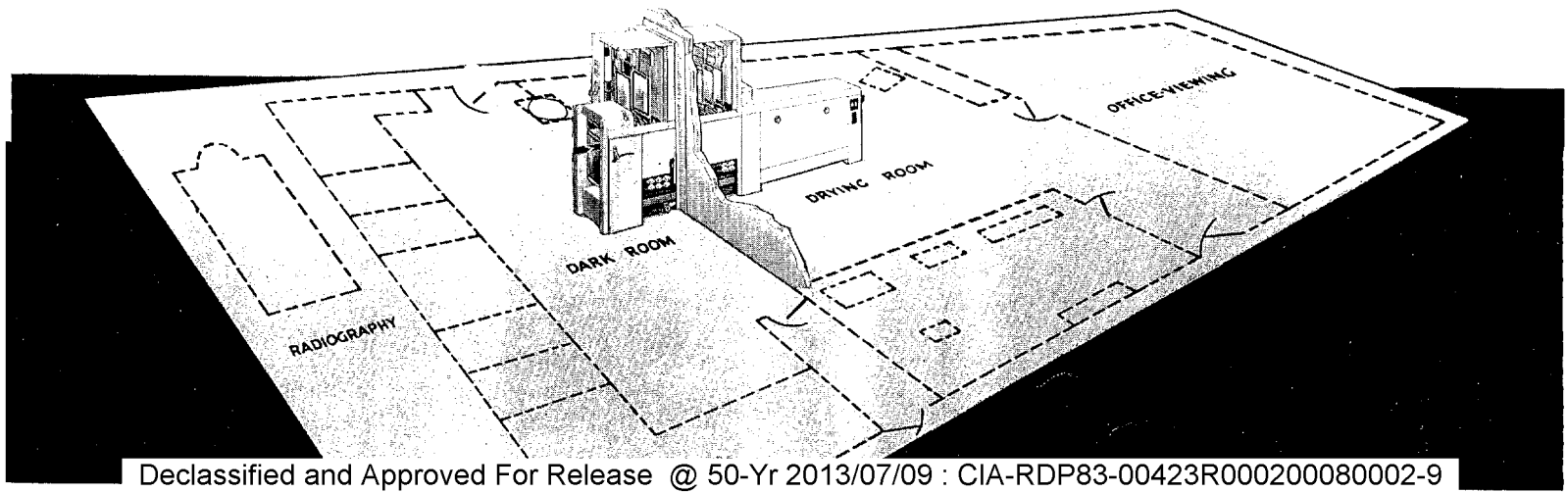
The operator positions loaded hangette in the Magazine of the PAKO Filmachine. The Filmachine then takes over completely. The time the film is developed, fixed, washed and dried is controlled automatically.

Film suspended on PAKO Hangettes is carried smoothly through each process, automatically transferred from one solution to the next, thoroughly dried and delivered without any attention from the operator.

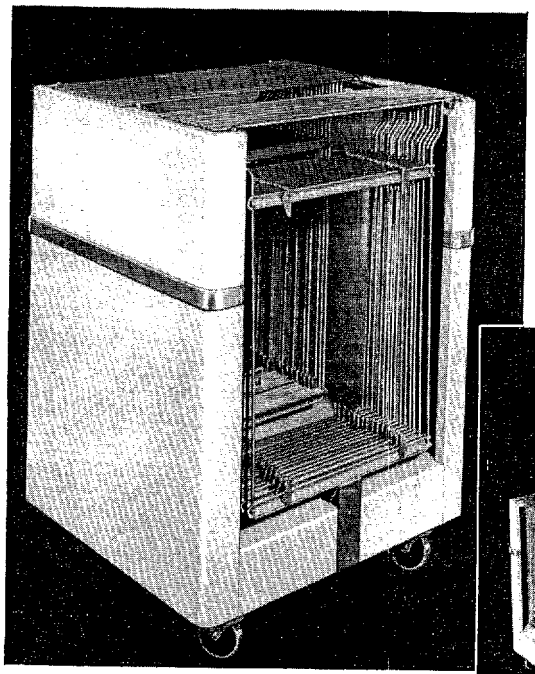
Processing time schedules remain constant as preselected. Knowing that every exposed film will be uniformly processed permits radiographic techniques and procedures to be established with full confidence.

The Model 30 PAKO X-Ray Filmachine completely processes 60—14 x 17, or equivalent film area, per hour.

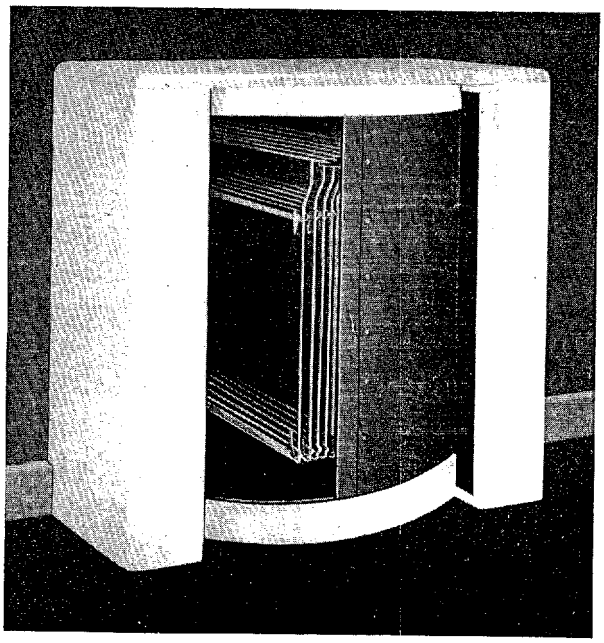
The Model 14 PAKO X-Ray Filmachine delivers 120—14 x 17 radiographs per hour or will handle films up to 17″ x 28″.



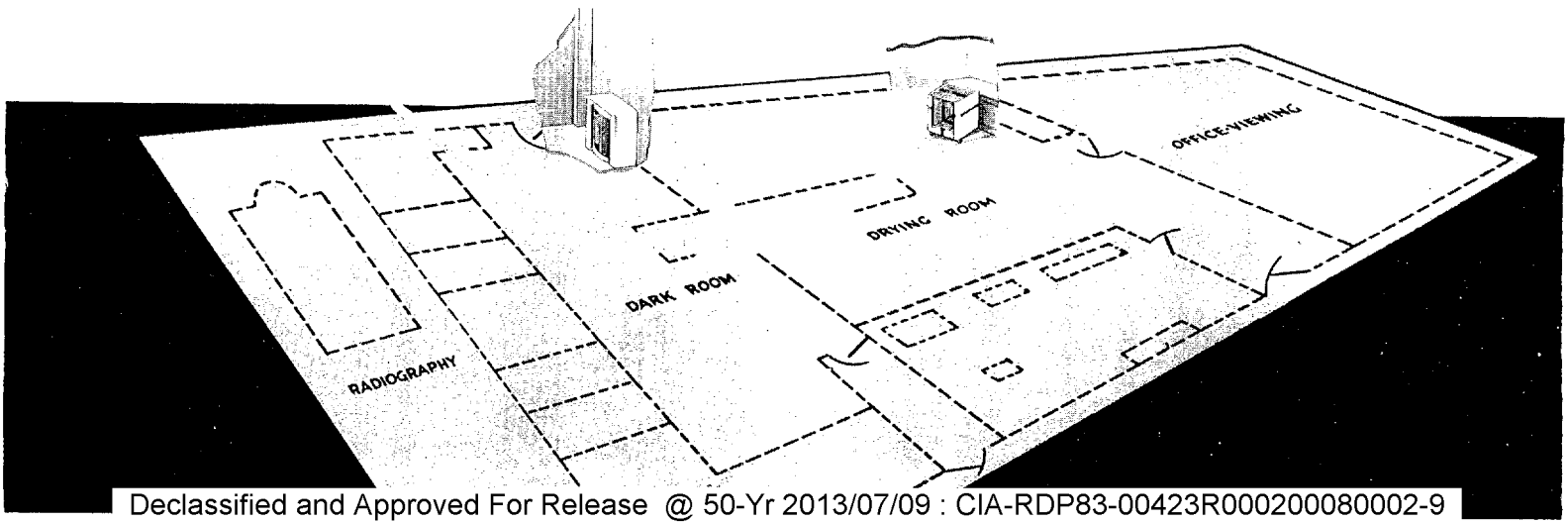
Mechanized handling streamlines operations, saves time.



PAKO Hangette Truck . . . holds 44 Hangettes. Large wheels with rubber tires roll easily and quietly. Hangettes may be stored in the Hangette Truck temporarily and moved from one place to another as required.



PAKO Returnstile . . . provides a safe, easy method of returning Hangettes to the darkroom. It is of light lock construction. Temporarily stores 60 Hangettes until needed in the darkroom.



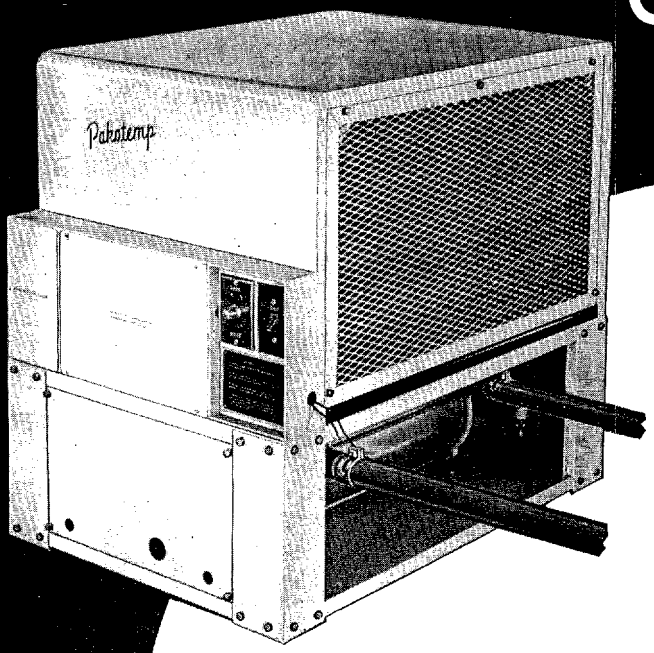
PAKO AUTOMATIC FILM PROCESSING EQUIPMENT

provides a system for positive control of the TIME factor in the processing procedures. Accurate repetition of the predetermined time cycles assures the finest quality in each finished radiograph.

PAKO darkroom accessories provide simple, systematic handling of x-ray films to reduce the possibilities of blemishes and scratches.

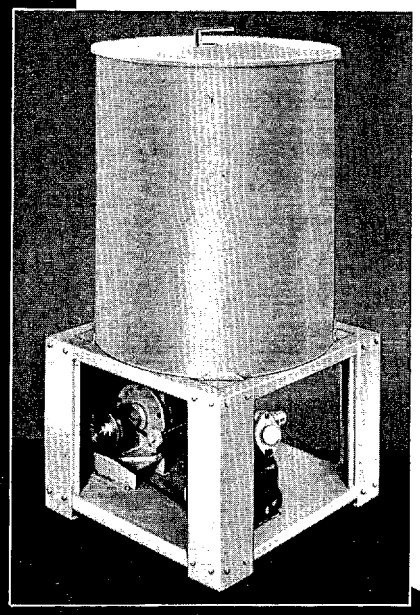
Now for other factors which must be controlled to assure consistent results...

CONTROL OF...Solution

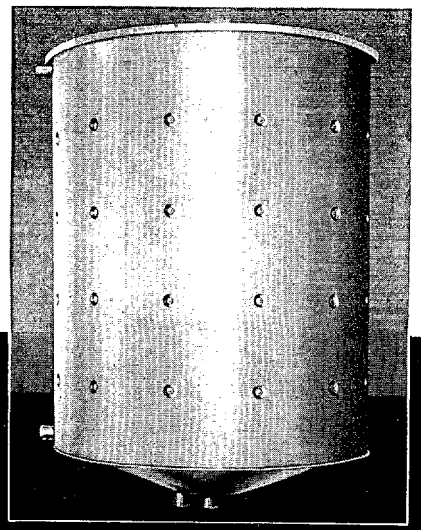


PAKOTEMP . . . Controls solution temperatures at plus or minus ½°F. Provides refrigeration *or* heat to hold chemical solutions at the required temperature. Accurate, positive control eliminates the necessity of varying established processing time schedules to compensate for changes in solution temperatures.

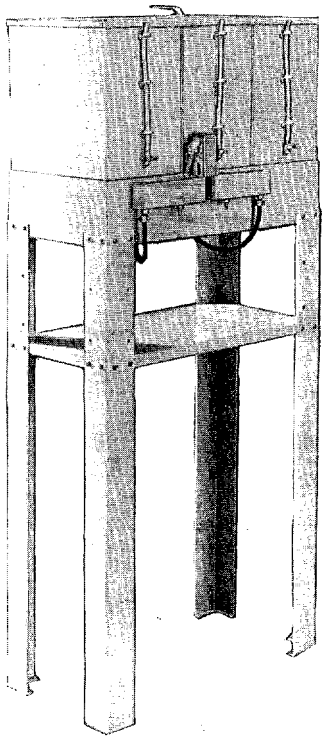
HYDROMIXER . . . Quickly and thoroughly mixes chemical solutions. Pumps the solution to storage or replenishing tanks or stores and distributes it as needed.



STORAGE TANKS . . . Stainless steel, hopper type bottoms, and dust covers provide a safe, convenient way for storing chemical solutions. Tanks available with tempering jacket. Either high or low base.



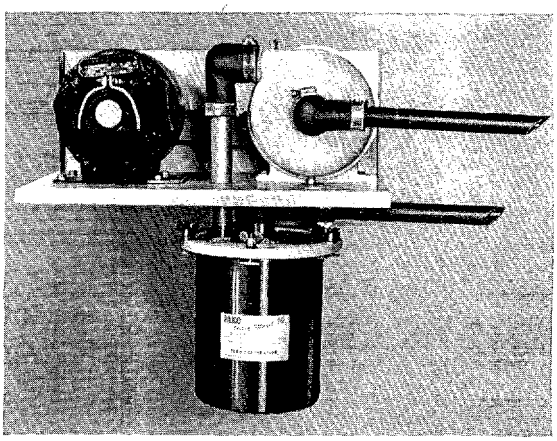
Temperature and Chemical Activity...

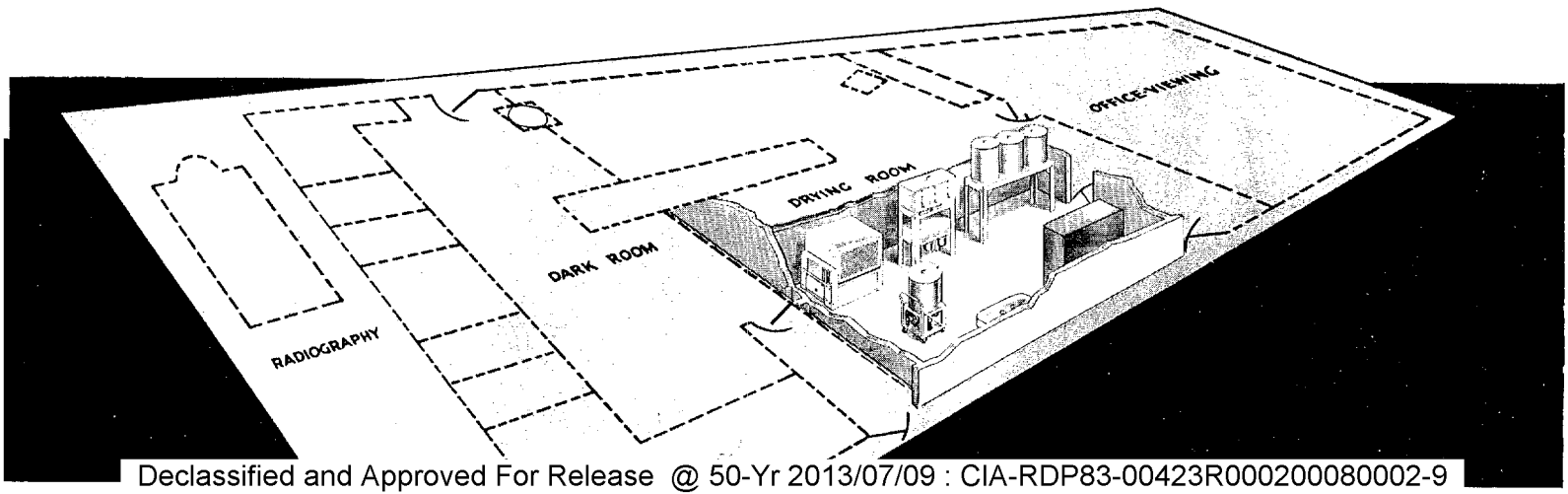


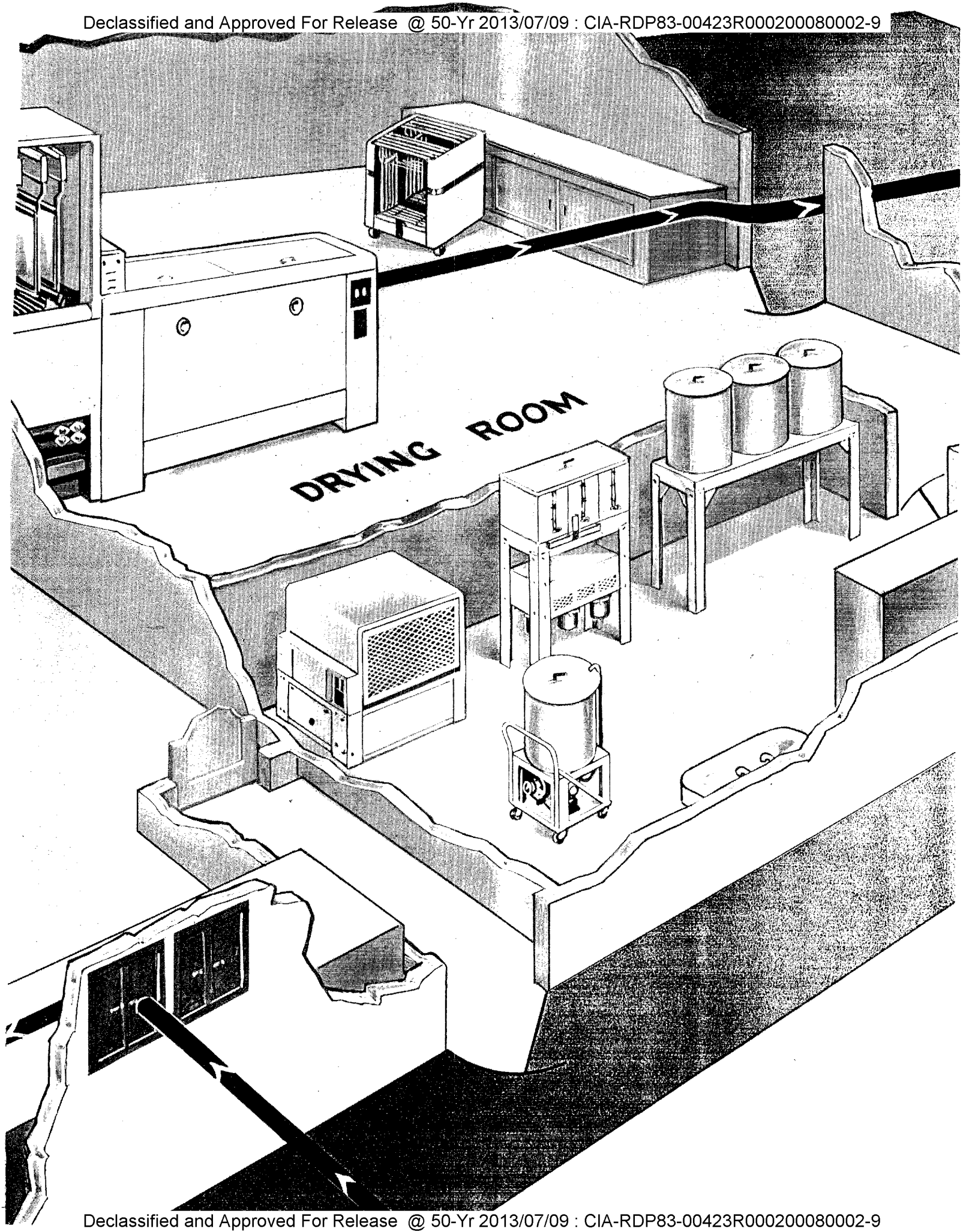
To complement the control of processing time schedules and solution temperatures, it is necessary to maintain the chemical activity of the processing solutions.

CHEMICAL REPLENISHING EQUIPMENT automatically delivers to the working tanks a predetermined amount of replenishing solution as film is processed. This maintains the performance characteristics of the chemical solutions at a constant level.

PAKO CIRCULATION-FILTRATION EQUIPMENT continuously circulates and filters the working solution and removes insoluble foreign matter. Thoroughly disperses replenishing solution and increases agitation of the working solution.







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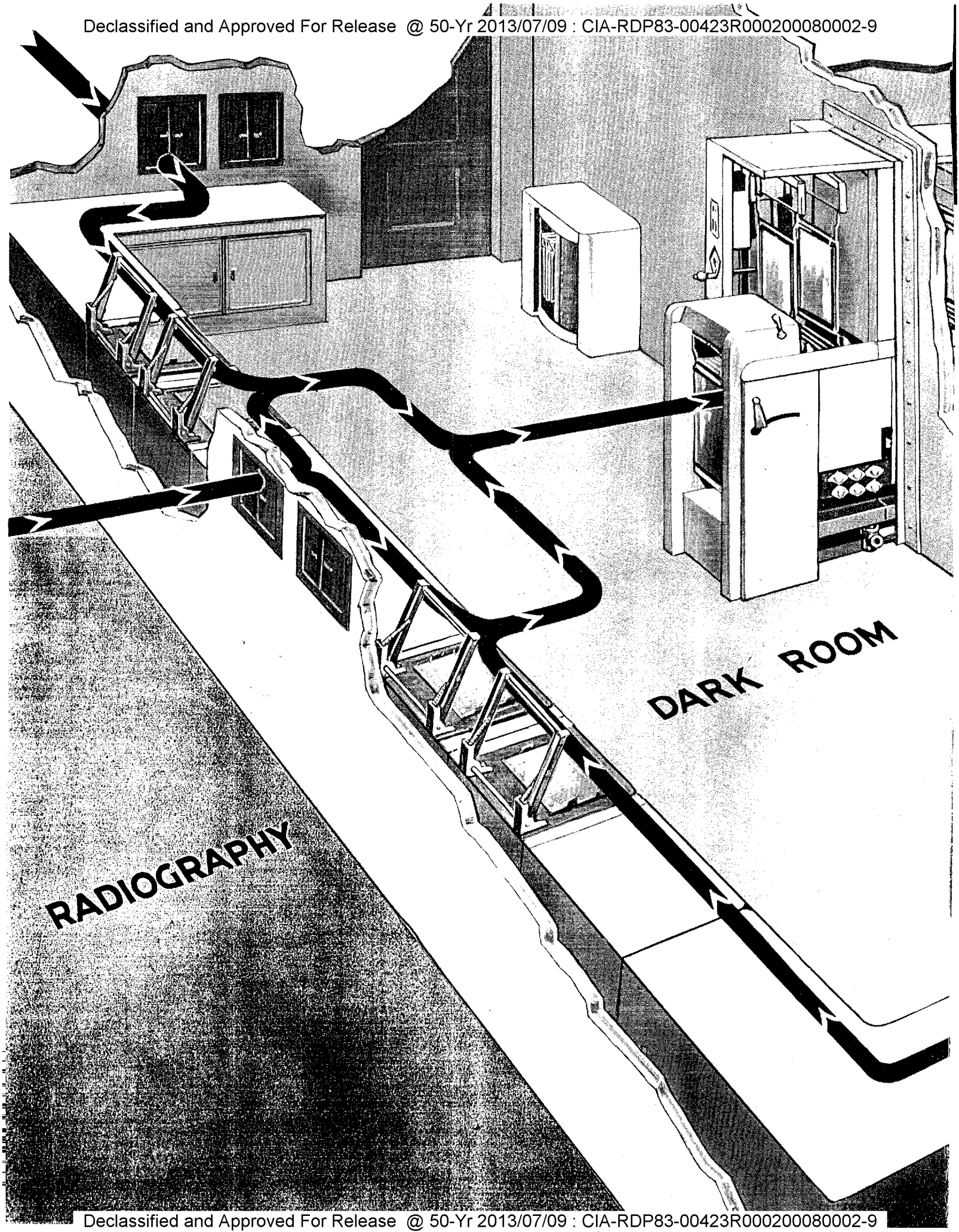
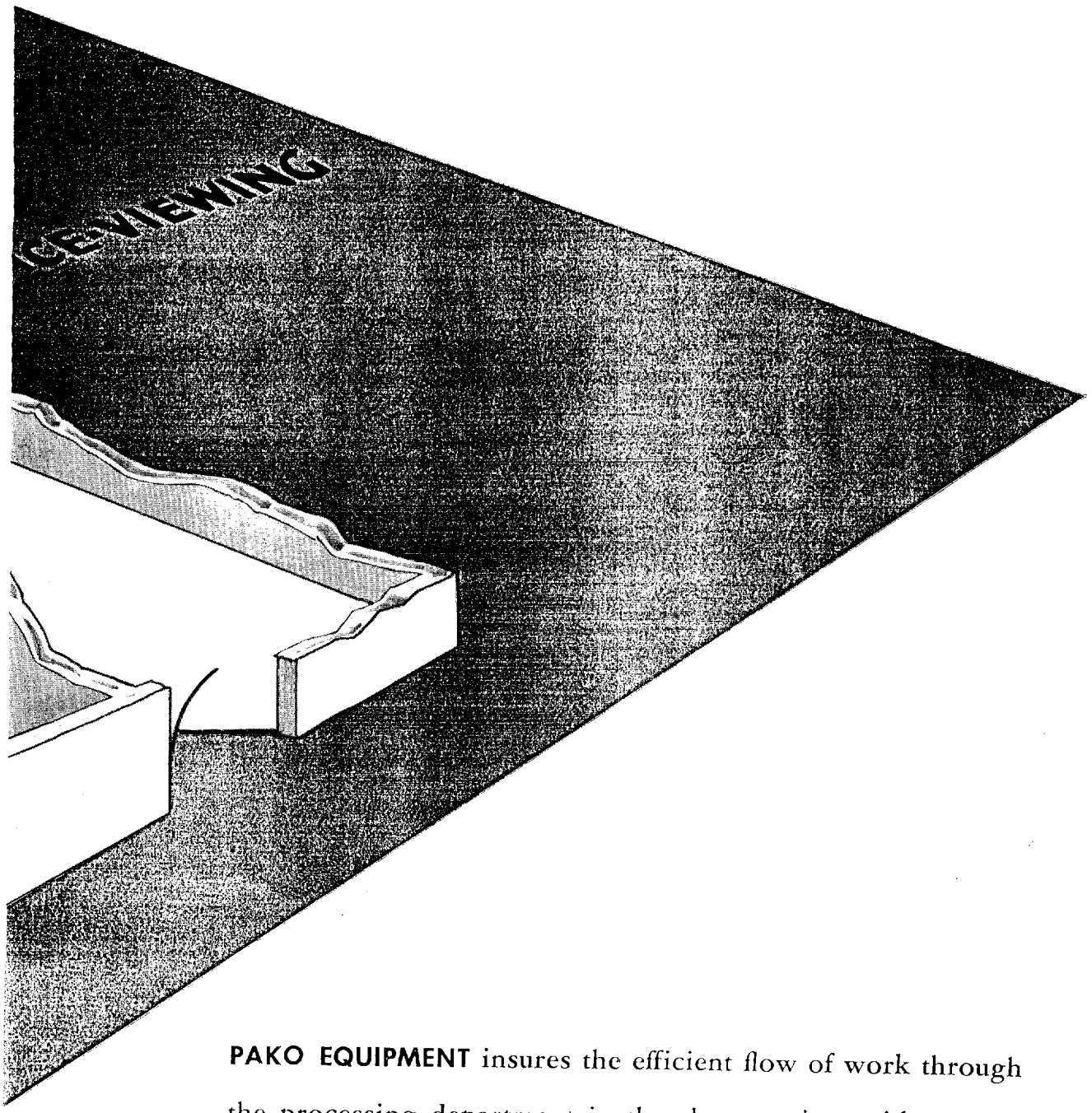


BACK OF EVERY EXPOSED X-RAY FILM stands a considerable investment in equipment, education and talent. The final steps in making the radiograph (developing, fixing, washing and drying) must be as carefully planned, controlled and coordinated as the exposure procedures to obtain the best possible results.

PAKO AUTOMATIC X-RAY FILM PROCESSING EQUIPMENT provides a system that insures the uniform processing of *every* film plus efficient, convenient handling of film and chemicals. Accurate, automatic control of TIME, SOLUTION TEMPERATURE and CHEMICAL ACTIVITY assures that the processing schedules as established by the Radiologist are maintained at all times.



PAKO EQUIPMENT insures the efficient flow of work through the processing department in the shortest time with a minimum of operator attention.

Because all processing factors affecting the finished radiographs are accurately controlled the resulting uniform high quality fully reflects the skill, the planning, and the investment behind each radiograph.

Question:	Answer:
What volume of work is necessary to warrant Automatic Processing?	Volume alone is not the deciding factor—standardized procedures, uniform quality control, and departmental system must be considered also. PAKO X-Ray Filmachines have been installed and operated advantageously in locations processing 100 films per day.
What savings can be effected with a PAKO X-Ray Filmachine?	Chemical Savings—Operation of PAKO X-Ray Filmachines permits adequate drainage of films during transfer from one solution to another which decreases the amount of solution "carry-over". This results in less contamination of succeeding baths and a consequent savings in original solution. Film Savings—Indirectly a savings in film may be realized. Accurate processing time schedule and positive temperature control possible with Automatic processing reduces the quantity of "retakes". Labor Savings—Automatic progression and transfer of film through the various processes require a minimum of personnel.
What effect does Automatic X-Ray Processing have on departmental operation?	It instills accuracy in radiographic procedures and keeps "retakes" at a minimum. Eliminates sight development. Carries out and completes the exacting standards as set up by the radiologist.
How does it affect efficiency of department?	Automatic operation insures continuous flow of work with no delays or "holdups" in processing. Finished radiographs are delivered on schedule. Wet film viewing is reduced to essential minimum. All film is available for interpretation with least amount of delay. Stress and strain on personnel reduced.
Can emergency film be processed?	Yes, with a Model 30, film is available one minute after entering hypo. After viewing, film may be returned to machine and processing completed.
Is a great deal of operator training required?	Operation of Automatic Processing Equipment is so simple, very little time is required for training the operator. The operator is fully indoctrinated by a PAKO Representative at time of installation. Many installations employ blind personnel.
Does it affect cleanliness?	Mechanical operation eliminates splashed chemical. Floors are kept dry and clean. Improves general housekeeping in processing area.
Can this equipment be modified at a later date to incorporate new developments?	Wherever possible it has been the endeavor of PAKO Corporation to make available modifications to bring existing machines up to present day specifications.